THE TAXONOMIC STATUS OF *AGERATINA LUCIAE-BRAUNIAE* (FERN.) KING & H. ROBINS.[1]

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Ageratina luciae-brauniae (Fern.) King & H. Robins. was first described by E. Lucy Braun (1940) as *Eupatorium deltoides* Braun. Braun's name was illegitimate, however, since it is a later homonym of *E. deltoideum* Jacq. This error was corrected when Fernald (1942) proposed the new name *Eupatorium luciae-brauniae* Fern., in honor of its discoverer. King & Robinson (1970) later transferred this species to *Ageratina,* producing the new combination *Ageratina luciae-brauniae* (Fern.) King & H. Robins.

In a revision of *Ageratina* from eastern North America, Clewell & Wooten (1971) placed this species in synonymy under *Ageratina altissima* (L.) King & H. Robins. (= *Eupatorium rugosum* Houtt.) and stated that these are "...bizarre plants showing extreme symptoms of etiolation from growing under limestone [sic] ledges...." Without doubt, *A. luciae-brauniae* is closely related to *A. altissima*, but a number of ecological and morphological differences appear to warrant the retention of *A. luciae-brauniae* at the species level.

Ageratina luciae-brauniae is restricted to the sandy floors of sandstone rockhouses of the Pottsville formation in Tennessee and Kentucky. The term rockhouse refers to cave-like overhangs resulting from differential weathering of sandstone. This unique habitat protects these delicate plants from direct rainfall and, as suggested by Braun (1940), may account for their absence outside the rocky overhangs. Greenhouse studies have shown that the delicate appearance of these plants is a genetically based adaptation and not simple etiolation as suggested by Clewell & Wooten. Transplants of *A. luciae-brauniae* and *A. altissima* were placed in the greenhouse facilities at the University of Tennessee in September, 1974, and were allowed to flower and die back to the rootstocks. These perennials then completed a season's growth in 1975 and have reappeared in February, 1976 (Fig. 1 & 2), with no phenotypic changes that would suggest taxonomic equivalency. In addition, plants of *A. luciae-brauniae* grown from seed in the greenhouse expressed the same phenotype as naturally occurring rock-

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house plants. Furthermore, *A. luciae-brauniae* has glabrous stems and cordate-deltoid leaves (Fig. 1) and can easily be distinguished from *A. altissima*, which has pubescent stems and generally ovate leaves (Fig. 2).

Chromosome counts of n=17 were determined for plants of *A. luciae-brauniae* from Pickett Co., Tennessee. This number agrees with the base chromosome number for *Ageratina* as defined by King & Robinson. Voucher specimens for these counts are deposited at TENN.

Literature Cited

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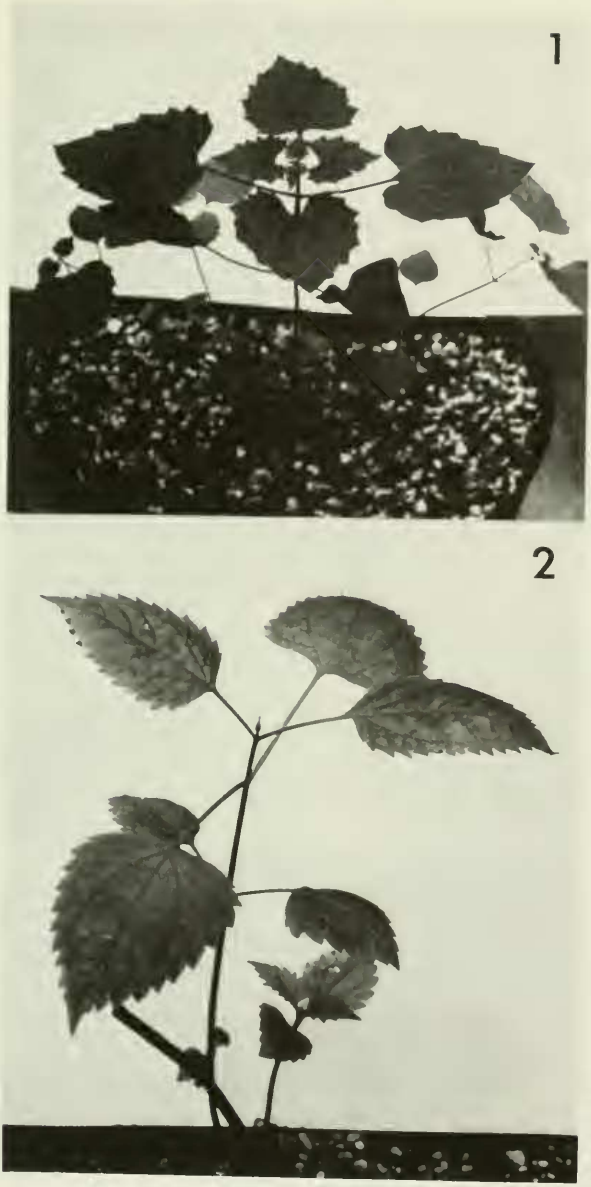

Fig. 1 & 2. Transplants of *Ageratina luciae-brauniae* from Pickett Co., TN. (Fig. 1) and *Ageratina altissima* from Scott Co., TN. (Fig. 2).